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February 14, 2005

Mr. Jonathan Trout  
Secretary/Treasurer  
Louisville Metro Air Pollution Control District  
850 Barrett Avenue  
Louisville, KY 40204-1745

**RE: Formal Comments on the STAR Program**

Dear Mr. Trout:

Attached are the comments of American Synthetic Rubber Company concerning the revised version of the STAR Program that was made available for formal public comment on January 14, 2005. ASRC requests that the Air Pollution Control District and Board give consideration to these comments in the continuing development of the STAR Program.

In addition, ASRC endorses the detailed comments concerning the STAR Program that are being submitted by Greater Louisville, Inc.'s "Air Toxics Task Force".

Sincerely,

A handwritten signature in black ink, appearing to read 'Joel-André Audureau', with a stylized flourish at the end.

Joel-André Audureau  
President

/clc

attachments

cc: Ron Musgnug  
Rich Robinson  
Bruce Brackett

**American Synthetic Rubber Company  
Formal Comments on the STAR Program**

**Preliminary Regulatory Impact Assessment**

At page 18 of the Preliminary Regulatory Impact Assessment, the District recognizes that a cost of \$5,000 to \$10,000 per ton reduction in emissions of a toxic air contaminant is generally considered to represent what constitutes Best Available Control Technology (BACT). Similarly, a cost of \$10,000 to \$20,000 per ton reduction in emissions of a toxic air contaminant is generally considered to represent Maximum Achievable Control Technology (MACT). The District goes on to estimate "that environmental acceptability could be achieved for most of the other processes [i.e., those that cannot meet the environmental acceptability 'with a cost effectiveness of less than \$5,000 per ton'] by using control equipment that would have a cost effectiveness in the \$5,000 to \$10,000 per ton range." Therefore, the District should state that environmental control equipment that meets the federal standards for BACT constitutes T-BAT as defined in Regulation 5.01.

**Regulation 1.02**

The definitions in Regulation 1.02, and all other defined terms in the STAR Program, including but not limited to the definitions in Regulation 5.01, should be identical to the definitions adopted by the Kentucky Division for Air Quality in 401 KAR Chapters 50 through 65. If there is not a corresponding definition in the regulations adopted by the Kentucky Division for Air Quality, then the definition used by EPA in the regulations adopted to implement the provisions of the Clean Air Act should be used. The use of the same definitions for the same terms will avoid confusion, and allow interpretations and guidance related to those terms at the state and federal level to be employed in the implementation of the STAR Program.

In the alternative, the Regulatory Impact Assessment should specify and explain the reasons why the term is being defined in a different manner and why that different definition is necessary for the implementation of the STAR Program.

**Regulation 1.06**

Section 5.2 of this regulation will require a Group 1 stationary source to report emissions data information for calendar year 2004. This is a retroactive requirement, since it will require the collection of data for a time period prior to the effective date of this proposed regulation. Such a retroactive application violates KRS 446.080(3).

Owners and operators of Group 1 stationary sources should be provided a period of time following the effective date of this regulation in which to employ the necessary personnel to meet the requirements of this regulation for the collection of new and additional data, train those employees to collect and properly report that data, arrange for and implement the systems necessary to collect the data, and otherwise implement the actions necessary to comply with the new requirements of this proposed regulation. Therefore, Section 5.2 of this regulation should

be amended to provide that an enhanced emissions statement for toxic air contaminants for a Group 1 Stationary Source containing the information listed in Section 5.2.3 for Category 1 TACs shall first be submitted for calendar year 2006.

As this specifically relates to American Synthetic Rubber Company, this will allow American Synthetic Rubber Company to complete the installation of the thermal oxidizer that will be used as the primary control equipment in addition to the flare that is currently being used, for which construction and testing will be completed by December 2005, pursuant to the voluntary agreement with the District and Board. Allowing the collection of the enhanced emissions data for calendar year 2006, will enable that information to be submitted on the basis of the reduced emissions that will be achieved from the implementation of that new technology.

#### **Regulation 1.07**

Regulation 1.07 should be amended to provide an adequate period of time following the effective date of the regulation, which should be a minimum of 180 days, to allow regulated entities to train their personnel in the new requirements of this regulation, to hire any new personnel that may be necessary to implement the requirements of this regulation, and to set up the systems necessary to implement the requirements of this regulation.

In addition, this regulation should be amended to eliminate redundant reporting. Only two reports be required: (i) an initial report at the time of a start-up/shutdown or malfunction; and (ii) a second report following the start-up/shutdown or malfunction that explains the circumstances of the start-up/shutdown or malfunction.

#### **Regulation 1.20**

Regulation 1.20 is arbitrary because it does not adequately specify the circumstances under which the District may require an affected facility to implement a Malfunction Prevention Program. As currently proposed, Regulation 1.20 does not allow a regulated entity to determine when a Malfunction Prevention Program may be required.

Regulation 1.20 is not necessary, since current Regulation 1.07 adequately addresses requirements for malfunctions. In particular, Section 2.2. of Regulation 1.07 defines the factors that are to be considered in an enforcement action for excess emissions, which include, but are not limited to, whether the excess emissions are part of recurring pattern indicative of inadequate design, operation, or maintenance; whether the process or process equipment was, at all times, operated in a manner consistent with good practices for minimizing emissions; and whether consistent with safe operating procedures, the owner/operator stopped input feed to the process or process equipment and shut down the process or process equipment. In applying these factors, the District may pursue enforcement, and as part of that enforcement require appropriate action to minimize excess emissions, which could include a requirement to implement a malfunction prevention program.

## **Regulation 1.21**

The provisions of Regulation 1.21 should be identical to the federal leak detection and repair regulations. Section 3 of this regulation inappropriately applies the requirements of 40 CFR Part 63 Subpart H National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks to all affected facilities. This application ignores that specific requirements have been developed for the detection and repair of equipment leaks for specified types of facilities in 40 CFR Parts 60, 61 and 63. Those specific requirements adopted at the federal level were based upon an extensive review that was conducted by EPA of the affected facilities, and contain requirements that are appropriate for those specific affected facilities. The "across the board" application of only the requirements of 40 CFR 63 Subpart H is arbitrary, and will result in the application of requirements inconsistent with the federal requirements. Regulation 1.21 should implement the requirements of the federal program for the detection and repair of equipment leaks in 40 CFR Parts 60, 61 and 63, with only lower detection limits applied.

The definition of "leak" in Section 1.4 should establish different screening concentrations for "light liquids" and "heavy liquids" because of the differing vapor pressures.

The regulation should also establish different screening concentrations depending on the type of component that is monitored. In addition to the components listed in the definition, different screening concentrations should be established for connectors, pressure relief devices and instrumentation systems.

The definition of "pump" should also recognize and distinguish the different types of pumps that are used by different industries, including food/medical service, and establish different screening concentrations based upon the type of pump.

Regulation 1.21 should implement the requirements of the federal program for the detection and repair of equipment leaks in 40 CFR Parts 60, 61 and 63, with only lower detection limits applied. Otherwise, the provisions of Regulation 1.21 should be identical to the federal leak detection and repair regulations.

Regulation 1.21 will require the implementation of a leak detection and repair program for inorganic toxic air contaminants. The leak detection and repair program at the federal level is designed to apply to organic toxic air contaminants, not inorganic. There is no experience with the preparation and implementation of a leak detection and repair program for inorganic toxic air contaminants, such as metals. Therefore, Regulation 1.21 as currently drafted imposes a requirement for which there is not a method to comply for inorganic toxic air contaminants. Regulation 1.21 should be amended to expressly provide that it does not require a leak detection and repair program for inorganic toxic air contaminants.

## **Regulation 5.20**

Regulation 5.20 establishes the methodology for determining a Benchmark Ambient Concentration of a toxic air contaminant. The BAC is used in the determination of compliance with the environmental acceptability goals and standards established in Regulation 5.21. A determination of compliance with environmental acceptability levels is based upon an assumed exposure to a toxic air contaminant for a 70 year continuous exposure. The Unit Risk Estimate (URE) for 1,3-butadiene established by EPA in the Integrated Risk Information System (IRIS) is based upon an 85 year continuous exposure. Consequently, to be consistent with the UREs for other toxic air contaminants that will be used in the calculation of a BAC, an adjustment should be made to the URE for 1,3-Butadiene to make it consistent with a 70 year continuous exposure. Regulation 5.20 Sections 3 and 4 should be amended to provide that if a URE for any toxic air contaminant is based upon a continuous exposure in excess of 70 years, that the URE shall be adjusted by factor to make the URE representative of a 70 year continuous exposure for calculating the BAC.

## **Regulation 5.21**

Regulation 5.21 should be amended to apply the cancer risk and non-cancer hazard ranges used by EPA. EPA has determined that a risk of less than  $1 \times 10^{-6}$  provides an ample margin of safety, and that a cancer risk of less than  $1 \times 10^{-4}$  provides an ample margin of safety with consideration of costs, technical feasibility and other factors. Similarly, EPA has determined that a non-cancer hazard quotient of less than 1 provides an ample margin of safety, and that hazard quotients in excess of 1 can also provide an ample margin of safety with consideration of costs, technical feasibility and other factors.

The Preliminary Regulatory Impact Assessment does not establish an adequate rationale to support the more restrictive goals and standards proposed in Regulation 5.21.

## **Regulation 5.22**

Regulation 5.22 provides for the determination of a maximum ambient concentration based upon ambient air models, rather than exposure models. Ambient air concentrations may be used as a surrogate for the inhalation exposure concentrations for a population for screening level evaluations. Air Toxics Risk Assessment Reference Library, Volume 1, Technical Resource Manual, pg. 11-2. Such screening level assessments, which use simple models and result in conservative assumptions to estimate ambient air concentrations, assume continuous inhalation of outdoor air at the modeled location. Screening level assessments, which are typically used to prioritize further assessments, including whether a regulatory program should be developed, are appropriate for identifying potential risks. As a first step in determining whether a problem exists, screening level assessments are more uncertain than risk assessments using more refined exposure modeling. See, generally, Air Toxics Risk Assessment Reference Library, Volume 1, Technical Resource Manual, Chap. 13. In other words, screening level assessments are too broad to be used to evaluate exposure risks from a stationary source without

refinement through the use of a more sophisticated exposure model, and are inappropriate for determining quantitative risks of exposure.

The models do not accurately address fugitive emissions. Fugitive emissions are overestimated by EPA's SCREEN and ISC models. EPA's SCREEN and ISC models, Tiers 3 and 4 under the proposed Regulation 5.2, significantly overestimate concentration predictions from fugitive emissions. An adjustment factor should be developed and applied for the modeling of fugitive emissions near the ground. An adjustment factor should be applied because:

1. emissions from fugitive sources cannot be readily quantified;
2. EPA has adopted practices and procedures that cause the SCREEN and ISC models to predict high concentrations for low level fugitive releases;
3. it is difficult to match meteorological conditions to batch or sporadic operations, since exact run times may not be known, so the models over predict low level emissions associated with those operations;
4. stability and light wind assumptions in the models seriously overestimate short-term concentrations from low level sources;
5. slight errors in estimating wind direction may result in large errors in predicted concentrations at specific locations when pollutant plumes are narrow and winds are assumed to be stable;
6. sampling times for vertical dispersion, i.e., stack emissions, may not accurately predict horizontal dispersion; and
7. the models assume that wind speed near the ground is the same as at 10 meters, which may cause the model to over estimate concentrations.

The use of the Tier 3 and Tier 4 models should allow for the model to be adjusted to more accurately predict fugitive emissions on a case by case basis using good engineering judgment.

For example, fugitive emissions of 1,3-butadiene from industrial processes are punctual (not consistent over time). The models do not accurately take this into account, since the use of the models, as required in the proposed regulations, will assume that fugitive emissions calculated for a single year are representative of the amount of fugitive emissions that will occur in each year over a 70 year continuous exposure period. Similarly, 1,3-butadiene has a short life span in the environment. This is not accounted for in the models, which results in an overestimate of exposure to fugitive emissions. Finally, the calculation of the amount of fugitive emissions is not representative of the actual amount of fugitive emissions. The models do not take into account that if a leak is discovered on any day during the year, the calculation of the amount of fugitive emissions for that leak assumes the leak was continuous from the first day of the year to the day of discovery even if the leak was of shorter duration.

If a facility is in compliance with the leak detection and repair requirements of Regulation 1.21, a facility should not be required to model fugitive emissions pursuant to Regulation 5.22.

### **Regulation 5.23**

The STAR Program regulations should be amended to expressly allow the speciation of chromium into hexavalent and trivalent chromium to determine compliance with the environmental acceptability goals and standards. The regulations should expressly allow the speciation of chromium because:

1. the benchmark ambient air concentrations for chromium that have been developed by the District are based upon hexavalent and trivalent chromium, not total chromium;
2. in the response to Informal Comments for Regulation 5.23 Section 1, at page 5.23-7, the District expressly acknowledged that there is information available upon which to speciate chromium; and
3. at the modeling presentation, the District stated that there is a "hint" in the regulations that chromium can be speciated.

A regulatory "hint" is not a sufficient basis to establish that chromium can indeed be speciated to determine compliance with the STAR Program regulations. Therefore, the regulations should be amended to expressly allow the speciation of chromium to determine compliance with the requirements of the STAR Program.

Section 3 of Regulation 5.23 includes diesel particulate matter as a Category 3 toxic air contaminant. Is this only intended to be applied to mobile sources, or does it also pertain to non-mobile source diesel engines? Please explain how a facility is to account for diesel particulate matter from non-mobile sources under the requirements of the STAR Program.